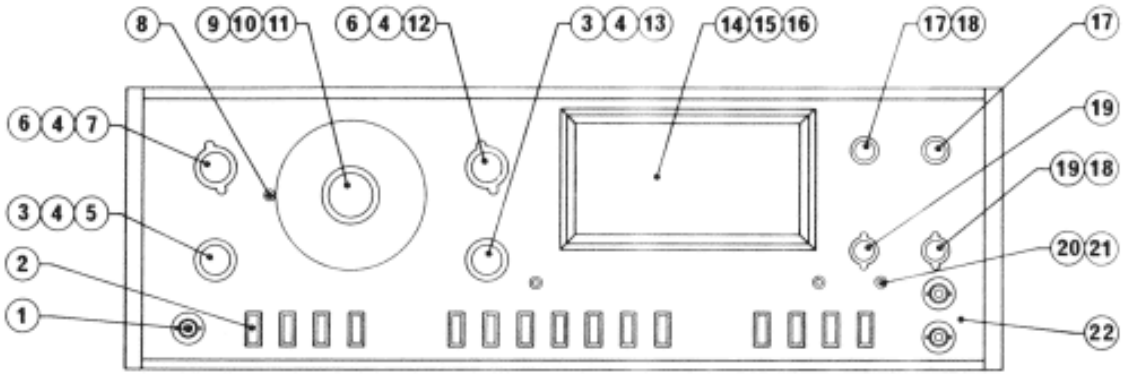
FERROGRAPH
RECORDER TEST SET

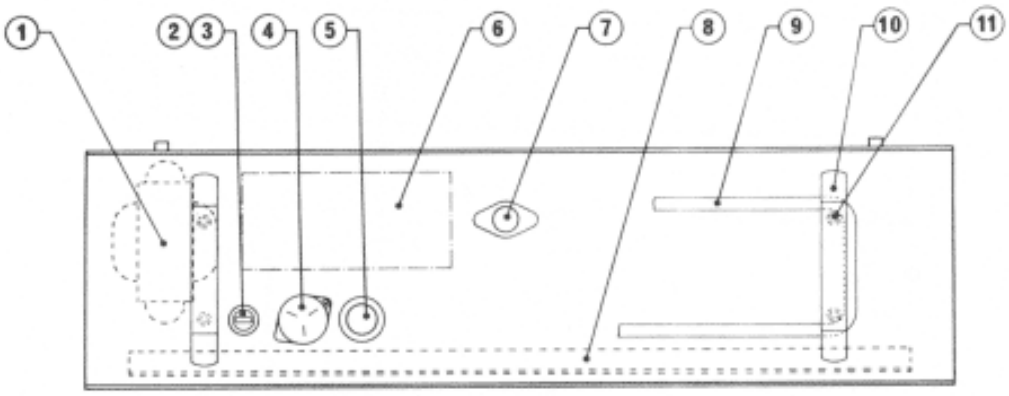
Appendix



FRONT VIEW

Ref. Number	Item	RTS 2 Qty.	Part No.
1	Socket	3	692-030
2	Button	15	448-019
3	Knob K2	2	448-021
4	Bush	4	100-037
5	Extension Spindle	1	705-028F
6	Knob K2W	2	448-023
7	Extension Spindle	1	705-028D
8	Zero Stud	1	666-071
9	Knob K3	1	448-025
10	Dial	1	295-004
11	Potentiometer 10kΩ Logarithmic	1	582-033
12	Extension Spindle	1	705-028C
13	Extension Spindle	1	705-028E
14	Meter	1	512-005
15	Lamp Holder	1	455-008
16	Lamp Festoon 3W	1	455-010(12V)
17	Knob K1	2	448-022
18	Extension Spindle	2	705-028A
19	Knob K1W	2	448-026
20	Bush	3	100-038
21	Extension Spindle	3	705-029
22	Front Panel	1	573-178

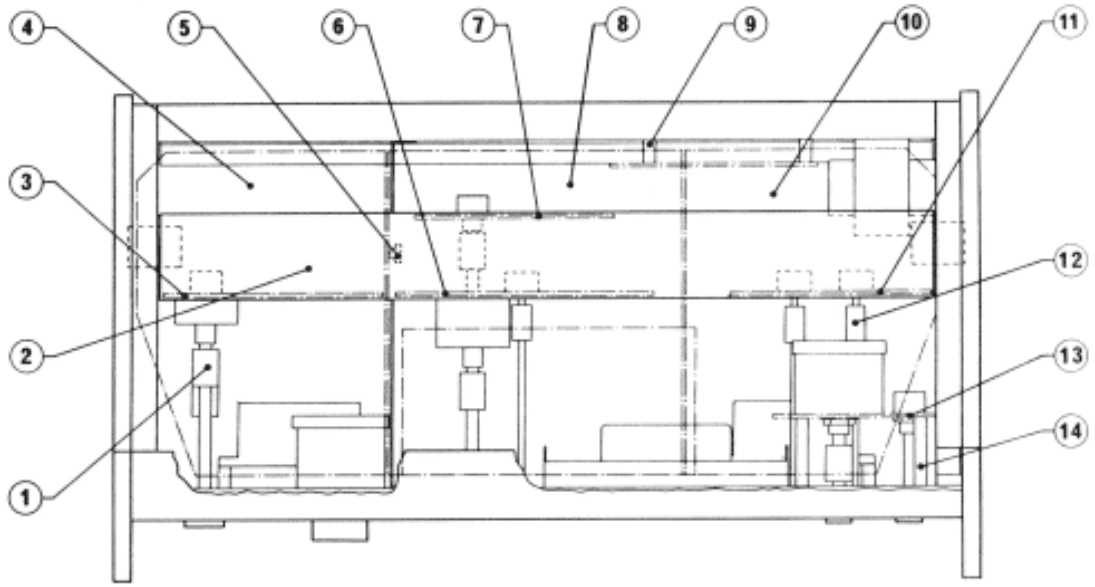
FERROGRAPH
RECORDER TEST SET



REAR VIEW

Ref. Number	Item	Qty.	RTS 2 Part No.
1	Mains Transformer	1	T1721
2	Fuse Holder	1	380-005
3	Fuse (0.75A, 20mm x 5mm dia.)	1	380-008
4	Voltage Selector	1	920-001
	Grommet	1	398-014
6	Power Board	1	025-310
7	Transistor (type 40312)	1	825-002
8	P.C. Board Support Bracket	1	025-255
9	Power Supply Lead	1	110-017
10	Cable Clip	2	196-011
11	Spacer	4	698-079

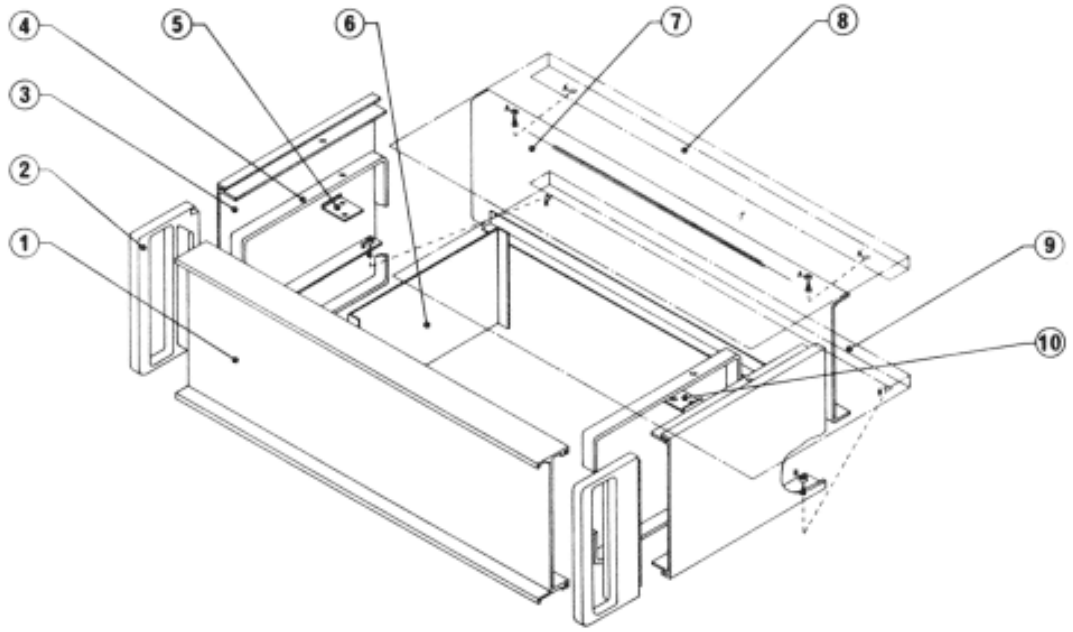
FERROGRAPH
RECORDER TEST SET



PLAN VIEW

Ref. Number	Item	RTS 2 Qty.	Part No.
1	Coupling	6	687-029
2	P.C. Board Fixing Strap	1	025-256
3	Oscillator Board	1	025-245
4	Oscillator Mother Board	1	025-247
5	Terminal Nut 4BA	1	BP/2025/N
6	Millivoltmeter Board	1	025-246
7	Distortion Meter Board	1	024-244
8	Millivoltmeter Mother Board	1	025-248
9	Spacer	9	698-068
10	Wow & Flutter Mother Board	1	025-311
11	Wow & Flutter Board	1	025-312
12	Coupling	3	202-005
13	Potentiometer Mounting Board	1	025-309
14	Spacer	4	698-069

FERROGRAPH
RECORDER TEST SET



EXPLODED VIEW

Ref. Number	Item	RTS2 Qty.	Part No.
1	Front Extrusion	1	573-180
2	Handle	2	412-002
3	Side Panel Extrusion	2	320-036
4	Hoop Frame	2	360-003
5	Bracket (top strap, L.H.)	1	025-254A
6	Screen	1	671-005
7	Rear Panel	1	573-177
8	Top Panel	1	573-143
9	Bottom Panel	1	573-144
10	Bracket (top strap, R.H.)	1	025-254B

List of Components

Cct. Ref.	OSCILLATOR BOARD			Part No.
	Resistors(R) & Potentiometers(RV)			
R1	2.2kΩ	¼W	1% High Stab.	625-24-2k2
R2	15kΩ	¼W	10%	625-13-15k
R3	10kΩ	¼W	5%	625-12-10k
R4	1.8kΩ	¼W	1% High Stab.	625-24-1k8
R5	560Ω	¼W	5%	625-12-560
R6	47kΩ	¼W	10%	625-13-47k
R7	680Ω	¼W	5%	625-12-680
R8	47kΩ	¼W	10%	625-13-47k
R9	1kΩ	¼W	1% High Stab.	625-24-1k
R10	620Ω	¼W	5%	625-12-620
R11	1370Ω	¼W	0.2% High Stab.	624-015
R12	432Ω	¼W	0.2% High Stab.	624-014
R13	137Ω	¼W	0.2% High Stab.	624-013
R14	43.2Ω	¼W	0.2% High Stab.	624-012
R15	13.7Ω	¼W	0.2% High Stab.	624-011
R16	6.34Ω	¼W	0.2% High Stab.	624-010
R17	100Ω	¼W	5%	625-12-100
R18	100Ω	¼W	5%	625-12-100
RV19	2.2kΩ	Linear (OUTPUT - fine)		582-035
	Capacitors			
C1	3300µF	40V	Electrolytic	130-024
C2	125µF	16V	Electrolytic	130-002
C3	125µF	16V	Electrolytic	130-002
C4	950pF	30V	2½%	131-775
C5	0.01µF	30V	2½%	131-774
C6	0.1µF	160V	1%	131-514
C7	1µF	160V	1%	131-515
C8	1µF	160V	1%	131-515
C9	0.1µF	160V	1%	131-514
C10	0.01µF	30V	2½%	131-774
C11	950pF	30V	2½%	131-775
	Miscellaneous			
VT1	Transistor BC183LB			825-015
VT2	Transistor BC184LB			825-016
VT3	Transistor BC183LB			825-015
SW1	Switch (OSC. OUTPUT coarse)			750-013
TH1	Thermistor ITT-R25			800-000

Cct. Ref.	FRONT PANEL	Part No.
	Potentiometers	
RV20a RV20b	10kΩ Log.) 10kΩ Log.) (FREQ.)	582-033
	Miscellaneous	
M1	Meter (Sifam 100µA)	512-005
LP1	Lamp 12V, 3W	455-010
SKT30	Socket BNC (1637/CS)	692-030
SKT31	Socket BNC (1637/CS)	692-030
SKT32	Socket BNC (1637/CS)	692-030

Cct. Ref.	WOW & FLUTTER BOARD			Part No.
	Resistors(R) & Potentiometers(RV)			
R31	3.3kΩ	¼W	5%	625-12-3k3
R32	1kΩ	¼W	1% High Stab.	625-24-1k
RV33	22kΩ	Linear SET 3150Hz		582-012
R34	430kΩ	¼W	2% High Stab.	625-25-430k
R35	430kΩ	¼W	2% High Stab.	625-25-430k
R36	3.3kΩ	¼W	5%	625-12-3k3
R37	5.6kΩ	¼W	5%	625-12-5k6
R38	10MΩ	¼W	10%	625-13-10M
R39	22kΩ	¼W	10%	625-13-22k
R40	47kΩ	¼W	5% High Stab.	624-001
R41	22kΩ	¼W	10%	625-13-22k
R42	3.3kΩ	¼W	5%	625-12-3k3
R43	390kΩ	¼W	1% High Stab.	625-24-390k
R44	22kΩ	¼W	10%	625-13-22k
R45	3.3kΩ	¼W	5%	625-12-3k3
R46	22kΩ	¼W	1% High Stab.	625-24-22k
R47	39kΩ	¼W	5%	625-12-39k
R48	56kΩ	¼W	10%	625-13-56k
R49	22kΩ	¼W	10%	625-13-22k
R50	1kΩ	¼W	10%	625-13-1k
R51	620Ω	¼W	5%	625-12-620
R52	2.2kΩ	¼W	1% High Stab.	625-24-2k2
R53	1kΩ	¼W	10%	625-13-1k
RV54	1kΩ	Linear DRIFT SENS.		582-032
R55	22kΩ	¼W	10%	625-13-22k
RV56	25kΩ	Linear drift set zero		582-031
R57	22kΩ	¼W	1% High Stab.	625-24-22k
R58	33kΩ	¼W	1% High Stab.	625-24-33k
R59	33kΩ	¼W	1% High Stab.	625-24-33k
R60	100kΩ	¼W	5% High Stab.	624-002
R61	220kΩ	¼W	5%	625-12-220k
R62	1.6kΩ	¼W	1% High Stab.	625-24-1k6
R63	1MΩ	¼W	10%	625-13-1M
R64	4.7kΩ	¼W	5%	625-12-4k7
R65	390Ω	¼W	1% High Stab.	625-24-390
R66	100kΩ	¼W	5% High Stab.	624-002
R67	1.6kΩ	¼W	1% High Stab.	625-24-1k6
R68	56kΩ	¼W	10%	625-13-56k
RV69	25kΩ	Linear peak wow cal.		582-031
R70	470Ω	¼W	10%	625-13-470
	Capacitors			
C21	1000pF	63V	2½%	131-768
C22	1000pF	63V	2½%	131-768
C23	0.22µF	100V	10%	131-253
C24	0.22µF	100V	10%	131-253
C25	0.33µF	100V	10%	131-257
C26	950pF	63V	2½%	131-775
C27	950pF	63V	2½%	131-775
C28	950pF	63V	2½%	131-775
C29	950pF	63V	2½%	131-775

FERROGRAPH
RECORDER TEST SET

List of Components

Cct. Ref.	WOW & FLUTTER BOARD			Part No.
	Capacitors			
C30	950pF	63V	2½%	131-775
C31	0.01µF	30V	2½%	131-774
C32	0.047µF	250V	10%	131-256
C33	0.22µF	100V	10%	131-253
C34	0.22µF	100V	10%	131-253
C35	0.1µF	100V	10%	131-250
C36	0.047µF	250V	10%	131-256
C37	0.047µF	250V	10%	131-256
C38	0.047µF	250V	10%	131-256
C39	25µF	25V	Electrolytic	130-016
C40	1µF	250V	10%	131-259
C41	25µF	25V	Electrolytic	130-016
C42	0.22µF	100V	10%	131-253
C43	12.5µF	25V	Electrolytic	130-026
C44	12.5µF	25V	Electrolytic	130-026
	Miscellaneous			
VT11	Transistor BC184LC			825-005
VT12	Transistor BC184LC			825-005
VT13	Transistor BC184LC			825-005
VT14	Transistor BC183LB			825-015
VT15	Transistor BC183LB			825-015
VT16	Transistor BC183LB			825-015
VT17	Transistor BC184LC			825-005
VT18	Transistor BC184LC			825-005
VT19	Transistor BC184LC			825-005
VT20	Transistor BC183LB			825-015
MR1	Diode MAX16			290-001
MR2	Zener Diode BZY88C12			290-017
MR3	Diode NKT 249A30			290-015
MR4	Zener Diode BZY88C5V6			290-013
MR5	Zener Diode BZY88C4V7			290-016
MR6	Zener Diode BZY88C4V7			290-016
MR7	Zener Diode BZY88C4V7			290-016
MR8	Diode NKT 249A30			290-015
MR9	Diode NKT 249A30			290-015
L1	Coil			Spec. 800

Cct. Ref.	POT. MOUNTING BOARD			Part No.
	Resistors(R) & Potentiometers(RV)			
R81	10kΩ	¼W	1% High Stab.	625-24-10k
RV82	2kΩ 10 turn BALANCE phase			582-056
R83	3.9kΩ	¼W	5%	625-12-3k9
RV84a	10kΩ Log.) (freq. coarse)			582-033
RV84b	10kΩ Log.)			
R85	3.9kΩ	¼W	5%	625-12-3k9
R86	330kΩ	¼W	5%	625-12-330k
RV87a	100kΩ Log.) (freq. fine)			582-034
RV87b	100kΩ Log.)			
R88	330kΩ	¼W	5%	625-12-330k

Cct. Ref.	POT. MOUNTING BOARD			Part No.
	Capacitors			
C51	0.033µF 250V		1%	131-260
	Miscellaneous			
SW10	Switch SUPPLY on			750-004

Cct. Ref.	DISTORTION METER BOARD			Part No.
	Resistors(R) & Potentiometers(RV)			
RV101	22kΩ	Linear SET W&F CAL		582-012
R102	47kΩ	¼W	5% High Stab.	624-001
R103	47kΩ	¼W	5% High Stab.	624-001
R104	360kΩ	¼W	1% High Stab.	625-24-360k
R105	360kΩ	¼W	1% High Stab.	625-24-360k
R106	18kΩ	¼W	10%	625-13-18k
R107	4.7kΩ	¼W	1% High Stab.	625-24-4k7
R108	10kΩ	¼W	1% High Stab.	625-24-10k
R109	6.8kΩ	¼W	1% High Stab.	625-24-6k8
RV110	22kΩ Linear SET mVmeter CAL			582-012
RV111	100kΩ Log. set 100%			582-036
R112	1kΩ	¼W	10%	625-13-1k
R113	22kΩ	¼W	1% High Stab.	625-24-22k
R114	33kΩ	¼W	1% High Stab.	625-24-33k
R115	1.8kΩ	¼W	5%	625-12-1k8
R116	22kΩ	¼W	1% High Stab.	625-24-22k
R117	47kΩ	¼W	5% High Stab.	624-001
R118	100Ω	¼W	5%	625-12-100
R119	3.3kΩ	¼W	5%	625-12-3k3
R120	1.8kΩ	¼W	1% High Stab.	625-24-1k8
RV121	1kΩ Linear SET PHASE BAL.			582-032
R122	1kΩ	¼W	1% High Stab.	625-24-1k
R123	1.8kΩ	¼W	5%	625-12-1k8
R124	39kΩ	¼W	10%	625-13-39k
R125	100kΩ	¼W	5% High Stab.	624-002
R126	270Ω	¼W	5%	625-12-270
R127	47kΩ	¼W	5% High Stab.	624-001
R128	10kΩ	¼W	10%	625-13-10k
R129	1.5kΩ	¼W	5%	625-12-1k5
	Capacitors			
C61	0.1µF	100V	10%	131-250
C62	0.1µF	100V	10%	131-250
C63	640µF	25V	Electrolytic	130-004
C64	25µF	25V	Electrolytic	130-016
C65	0.47µF	250V	10%	131-258
C66	0.033µF	250V	10%	131-255
C67	25µF	25V	Electrolytic	130-016
C68	4700pF	30V	2½%	131-778
C69	0.47µF	250V	10%	131-258

List of Components

Cct. Ref.	DISTORTION METER BOARD	Part No.
	Miscellaneous	
VT31	Transistor BC183LB	825-015
VT32	Transistor BC183LB	825-015
VT33	Transistor 2 SC 1000 BL	825-035
VT34	Transistor BC183LB	825-015
VT35	Transistor 2 SC 1000 BL	825-035
VT36	Transistor 2 SC 1000 BL	825-035
VT37	Transistor 2 SC 1000 BL	825-035
MR21	Zener Diode BZY 88 C 5V6	290-013
MR22	Diode MAX 16	290-001

Cct. Ref.	MILLIVOLTMETER BOARD	Part No.
	Resistors (R) & Potentiometers(RV)	
R141	22Ω ¼W 5%	625-12-22
R142	2kΩ ¼W 0.2% High Stab.	624-016
R143	2MΩ ¼W 0.2% High Stab.	624-017
R144	1kΩ ¼W 5%	625-12-1k
R145	180Ω ¼W 1% High Stab.	625-24-180
R146	1kΩ ¼W 5%	625-12-1k
R147	10kΩ ¼W 5%	625-12-10k
R148	1kΩ ¼W 1% High Stab.	625-24-1k
R149	270kΩ ¼W 5%	625-12-270k
R150	1.5kΩ ¼W 1% High Stab.	625-24-1k5
R151	470Ω ¼W 10%	625-13-470
RV152	2kΩ Linear mV/meter cal.	582-030
R153	6.34Ω ¼W 0.2% High Stab.	624-010
R154	13.7Ω ¼W 0.2% High Stab.	624-011
R155	43.2Ω ¼W 0.2% High Stab.	624-012
R156	137Ω ¼W 0.2% High Stab.	624-013
R157	432Ω ¼W 0.2% High Stab.	624-014
R158	1370Ω ¼W 0.2% High Stab.	624-015
R159	470Ω ¼W 10%	625-13-470
R160	10MΩ ¼W 10%	625-13-10M
R161	100kΩ ¼W 5% High Stab.	624-002
R162	100kΩ ¼W 5% High Stab.	624-002
R163	47Ω ¼W 1% High Stab.	625-24-47
R164	470kΩ ¼W 10%	625-13-470k
R165	620Ω ¼W 5%	625-12-620
R166	10kΩ ¼W 5%	625-12-10k
R167	1.5kΩ ¼W 10%	625-13-1k5
R168	1kΩ ¼W 1% High Stab.	625-24-1k
R169	1kΩ ¼W 1% High Stab.	625-24-1k
R170	100Ω ¼W 5%	625-12-100
R171	220kΩ ¼W 10%	625-13-220k
R172	470kΩ ¼W 10%	625-13-470k
R173	1kΩ ¼W 5%	625-12-1k
R174	15kΩ ¼W 5%	625-12-15k

Cct. Ref.	MILLIVOLTMETER BOARD	Part No.
	Resistors(R) & Potentiometers(RV)	
R175	10kΩ ¼W 5%	625-12-10k
R176	180Ω ¼W 5%	625-12-180
	Capacitors	
C81	5000pF 160V 10%	131-765
C82	0.01µF 30V 2½%	131-774
C83	Variable Ceramic	131-001
C84	160µF 25V Electrolytic	130-011
C85	125µF 16V Electrolytic	130-002
C86	5µF 64V Electrolytic	130-007
C87	32µF 40V Electrolytic	130-013
C88	0.22µF 100V 10%	131-253
C89	0.1µF 400V 10%	131-516
C90	0.022µF 250V 10%	131-255
C91	0.22µF 100V 10%	131-253
C92	0.22µF 100V 10%	131-253
C93	5µF 64V Electrolytic	130-007
C94	0.047µF 250V 10%	131-256
C95	0.1µF 100V 10%	131-250
C96	500pF 160V 10%	131-765
C97	25µF 25V Electrolytic	130-016
C98	25µF 25V Electrolytic	130-016
C99	25µF 25V Electrolytic	130-016
C100	12.5µF 25V Electrolytic	130-026
C101	0.22µF 100V 10%	131-253
C102	125µF 16V Electrolytic	130-002
C103	160µF 25V Electrolytic	130-011
	Miscellaneous	
VT51	Transistor 2 SK30GR	825-006
VT52	Transistor BC184LC	825-005
VT53	Transistor BC183LB	825-015
VT54	Transistor BC183LB	825-015
VT56	Transistor BC183LB	825-015
VT57	Transistor BC183LB	825-015
MR31	Zener Diode BZY 88 C5V6	290-013
MR32	Diode MAX16	290-001
MR33	Diode MAX16	290-001
MR34	Diode MAX16	290-001
MR35	Zener Diode BZX 70 C20	290-011
SW6	Switch MILLIVOLTMETER	750-014

Cct. Ref.	POWER BOARD	Part No.
	Resistors(R) & Potentiometers(RV)	
R191	22kΩ ¼W 1% High Stab.	625-24-22k
RV192	1kΩ Linear SET 30V D.C.	582-032
R193	4.3kΩ ¼W 1% High Stab.	625-24-4k3
R194	3.9kΩ ¼W 5%	625-12-3k9
R195	100kΩ ¼W 10%	625-13-100k
R196	10kΩ ¼W 10%	625-13-10k

List of Components

Cct. Ref.	POWER BOARD	Part No.
	Capacitors	
C121	100µF 40V Electrolytic	130-001
C122	0.01µF 100V 10%	131-500
C123	250µF 64V Electrolytic	130-010
	Miscellaneous	
VT71	Transistor BC183LB	825-015
VT72	Transistor BC461	825-032
MR51	Zener Diode BZY 88C 5V6	290-013
MR52	Bridge Rectifier WO2	600-002

Cct. Ref.	REAR PANEL	Part No.
VT73	Transistor 40312	825-002
T1	Transformer, Power Supply	T1721
FS1	Fuse 0.75A, 20mm x 5mm dia.	380-008
VS1	Voltage Selector	920-001

Cct. Ref.	W & F MOTHER BOARD	Part No.
R211	680Ω ¼W 1% High Stab.	625-24-680
R212	137Ω ¼W 0.2% High Stab.	624-013
SW25	Push Button Switch W & F	749-005
SKT20	P.C. Board Socket - 26 way	692-029

Cct. Ref.	OSCILLATOR MOTHER BOARD	Part No.
SW15	Push Button Switch FREQUENCY	749-005
SKT1	P.C. Board Socket - 26 way	692-029

Cct. Ref.	MILLIVOLTMETER MOTHER BD.	Part No.
SW20	Push Button Switch	749-003
SKT10	P.C. Board Socket - 26 way	692-029
SKT11	P.C. Board Socket - 26 way	692-029

REPLACEMENT BOARD SERVICE

Where it is found necessary to change an electronic component, the RTS2 should be checked and re-calibrated using test equipment which is several times more accurate than the Test Set itself. If this equipment is not available or if difficulty is experienced, the relevant P.C. board(s) can be sent for checking or replacement to the Ferrograph 'Replacement Board Service'.

When returning the board(s) to the appropriate overseas agent, or in the U.K. to the South Shields Service Department, it is essential to include the SERIAL NUMBER of the Test Set.